

December 30, 2022

Via Email to: kbuckland@wareham.ma.us

Members of the Wareham Planning Board
c/o Kenneth Buckland
Director of Planning and Community Development
Memorial Town Hall
54 Marion Road
Wareham, MA 02571

Re: *Site Plan Review Application, 0 Rt. 25, Parcel ID 115-1000*

Dear Members of the Wareham Planning Board:

I am writing to follow up on various items discussed at the December 12, 2022 public hearing session.

Further Revised Site Plans

At the December 12, 2022 public hearing session, Charles Rowley, the Board's peer reviewer for the project, asked that the proposed site plans be augmented to (1) better show the planned locations of new utility poles within the easement area, (2) show the planned location of new utilities under the access road, and (3) describe the specifications for the reconstructed access road.

On December 28, 2022, we submitted to the Board further revised site plans incorporating the additional details requested by Mr. Rowley. For the convenience of the Board, we also submitted a version of the site plans where red outlining highlights the changes made.

VHB will bring hard copies of the revised site plans to the next public hearing session.

Further Revised Decommissioning Plan

Enclosed is a further revised Decommissioning Plan prepared by Stantec. Below we discuss how we have attempted to address the concerns expressed by the Board relating to decommissioning financial assurance.

Initial Decommissioning Financial Assurance Amount. As we believe was requested by the Board, the revised Decommissioning Plan (at page 10) now references an agreement by Wareham PV I, LLC (“Wareham PV I”) to use as an initial assumed decommissioning cost an amount derived from Table 2 of the February 2021 NREL report entitled “Best Practices at the End of the Photovoltaic System Performance Period,”¹ which was referenced by the Board during the December 12, 2022 public hearing session.

While we understand that the Board has not had the benefit of an expert peer review of Stantec’s decommissioning cost estimate and may find comfort in use of the NREL figures at this point, it is important for the Board to understand that the NREL figures do not appear to be an appropriate substitute for Stantec’s cost estimate. Among other things:

- Section 595.3 of the Zoning Bylaw calls for a decommissioning cost estimate “prepared by a qualified engineer.” The Stantec decommissioning plan and cost estimate has been prepared by individuals, including two professional engineers, who have prepared hundreds of similar plans approved by regulatory bodies in over 25 states. There is no indication that the NREL figures were prepared by a qualified engineer. In fact, the NREL report does not even provide any underlying data or even any description of what the underlying data are. The report cites one source that may be relevant – a 2020 presentation made by Cesar Barbosa to a California industry association entitled “New Regulations for End-of-Life PV Modules.” That source is not publicly available and does not appear to be based on a professional study of decommissioning costs. And according to his own LinkedIn profile,² Cesar Barbosa has solar industry experience but is not an engineer.
- Section 595.3 of the Zoning Bylaw necessarily requires a decommissioning cost estimate specific to the solar energy project at issue, which is precisely what Stantec has done here. The NREL figures are presented as a mere “example” that may not relate to any particular facility and certainly not to this proposed facility. Material differences include, among others:
 - The NREL figures assume a 1 MW PV system but larger projects involve economies of scale such that the costs of decommissioning a 3.5 MW system would not be 3.5 times the costs for a 1 MW system.
 - The NREL figures assume the use of large concrete pad-mounted inverters, which are more costly to remove, whereas the proposed project is designed with relatively small string inverters that are not pad-mounted.
 - The NREL figures appear to assume removal of a large transformer, grossly inflating costs, not the type of transformer that will be part of this proposed facility.

¹ Available at <https://www.nrel.gov/docs/fy21osti/78678.pdf>.

² Available at <https://www.linkedin.com/in/cesarbarbosa925/>.

- Stantec could not adopt the NREL figures as part of its professional cost estimate because it does not view the NREL figures as representing a professional, engineering-quality cost estimate.
- One of the sources referenced in the NREL report is a 2020 guidebook on “Decommissioning Solar Panel Systems” prepared for local governments by the New York State Energy Research and Development Authority (the “NYSERDA Guidebook”).³ Section 1.2 of that guidebook contains a sample list of decommissioning tasks and estimated costs for a 2 MW ground-mounted solar energy system and explains that the figures are based on estimates from the Massachusetts solar market. The costs presented are just \$60,200 (\$30,100/MW). We are not necessarily arguing for the use of the NYSERDA figures, even though those figures are reportedly drawn from actual data from actual Massachusetts projects. We do wish to point out that there is no particular reason why the NYSERDA figures wouldn’t be as or more authoritative than the much higher figures presented in Table 2 of the NREL report.

Ultimately, the best approach appears to be a project-specific decommissioning cost estimate prepared by a qualified engineer, just as is contemplated by Section 595.3 of the Zoning Bylaw. We believe the most appropriate initial decommissioning cost estimate for this project is the \$644,902 cost professionally estimated by Stantec, which would result in an initial decommissioning financial assurance amount of \$806,128 (125% of \$644,902). Our understanding is that a financial assurance amount of this magnitude would already be significantly in excess of decommissioning financial assurance amounts for solar energy projects in Massachusetts. Nonetheless, if the Board believes that it is critical to use an initial cost estimate in line with the NREL report example, Wareham PV I agrees to the use of an initial cost estimate of \$1,778,000 (\$1,603,000 for the solar equipment and \$175,000 for the battery energy storage equipment), which would result in an initial decommissioning financial assurance amount of \$2,222,500. In either case, for the benefit of the Town and the applicant, we believe it will be extremely important to have a first formal update of the decommissioning cost estimate as proposed below prior to commencement of construction.

Updating of Decommissioning Financial Assurance Amount. The Board has expressed concerns about whether a decommissioning financial assurance amount will be adequate, but it has also expressed concerns about its ability to review updated decommissioning cost estimates and its ability to enforce an appropriate updating of such estimates. We propose to address those concerns in the following manner:

- Update the decommissioning cost estimate (and associated financial assurance amount) prior to commencement of construction and on or before each 5th anniversary of the project’s commercial operation date.

³ Available at <https://www.nysesda.ny.gov/-/media/Project/Nyserda/Files/Programs/NY-Sun/Decommissioning-Solar-Systems.pdf>.

- Each update to be conducted by a qualified licensed professional engineer.
- Applicant to pay up to \$2,000 of the fees of a qualified licensed professional engineer engaged by the Town to conduct a peer review of the updated estimate.
- In the event of a dispute regarding the updated cost estimate, updated cost estimate to be determined by an independent qualified licensed professional engineer mutually agreed on by the Town and the applicant.

Inflation Adjustment of Decommissioning Financial Assurance Amount. The revised Decommissioning Plan (at page 10) also references an agreement by Wareham PV I to increase the financial assurance amount (or updated financial assurance amount, as applicable) by 3% annually on each anniversary of the project's commercial operation date.

Form of Decommissioning Financial Assurance. We ask that the Board handle the question of the form of decommissioning financial assurance in the same manner as it has repeatedly done in the context of other solar energy projects. In the context of other solar energy projects, the Board's (or the Zoning Board of Appeals') approval has been subject to the following condition: "The form of security to be posted for decommissioning shall be approved by Town Counsel and shall be automatically renewable with the Town of Wareham cited as a beneficiary of security proceeds in the event of default by the owner or successor(s) in title to the facilities." We note that Section 595.3 of the Zoning Bylaw already allows for multiple forms of financial assurance.

We expressly ask that the Board not require the decommissioning financial assurance to be in the form of a cash escrow. Setting aside a very large amount of cash for a period of 20 years or more is significantly more expensive than purchasing a surety bond. A cash escrow would be highly unusual in the context of Massachusetts solar energy projects. Even if a cash escrow were required, it would be even more unusual in the context of Massachusetts solar energy projects to require that it be fully funded at the outset. The NYSERDA Guidebook suggests that, where a cash escrow is used, "[t]he developer makes a series of payments during the project's lifecycle until the fund reaches the estimated cost of decommissioning."⁴ Mandating a cash escrow, particularly one tied to 125% of a high assumed decommissioning cost and fully funded at the outset, would not only be unusual but also impose an unduly heavy financial burden on the project.

Proposed Decommissioning Financial Assurance Conditions. In light of the above, we have attached draft language for the Board to consider including as conditions relating to decommissioning financial assurance in a site plan approval.

⁴ NYSERDA Guidebook at 151.

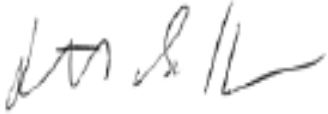
Member of the Wareham Planning Board

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Thank you very much.

Sincerely,

A handwritten signature in black ink, appearing to read "Jonathan S. Klavens". The signature is written in a cursive style with a long horizontal stroke at the end.

Jonathan S. Klavens

Enclosures

Decommissioning Plan, revised as of December 28, 2022, prepared by Stantec

cc: David Fletcher
Matthew Thornton, Longroad Energy
Lindsey Kester, Longroad Energy
Vanessa Kwong, Esq., Longroad Energy
Sarah Ebaugh, VH

**PROPOSED CONDITIONS REGARDING
DECOMMISSIONING FINANCIAL ASSURANCE**

1. The initial decommissioning cost estimate in the amount of \$644,902.00, and the corresponding initial decommissioning financial assurance amount of \$806,128 (125% of the cost estimate) in the Decommissioning Plan dated December 28, 2022 is approved subject to the conditions that:
[Alternative language in the event the Board finds it cannot approve the Stantec cost estimate: Notwithstanding the initial decommissioning cost estimate in the amount of \$644,902.00 prepared by applicant's qualified engineer, the Board determines that the initial decommissioning cost estimate should be \$1,778,000 and the corresponding initial decommissioning financial assurance amount should be \$2,222,500 subject to the conditions that:]
 - a. the decommissioning cost estimate and corresponding decommissioning financial assurance amount shall be reviewed and adjusted if necessary, (i) prior to commencement of construction of the facility and (ii) every five years following commencement of commercial operation of the facility; and
 - b. the decommissioning financial assurance amount (or updated decommissioning financial assurance amount, as applicable) shall be increased by three percent (3%) annually on the anniversary of the facility's commercial operation date.
2. In the case of each review of the decommissioning cost estimate:
 - a. The facility owner shall provide an updated decommissioning cost estimate prepared by a qualified licensed professional engineer with adequate experience in the solar industry.
 - b. The facility owner shall pay up to \$2,000 of the fees of a qualified licensed professional engineer with adequate experience in the solar industry engaged by the Town to conduct a peer review of the updated cost estimate.
 - c. In the event of a dispute regarding the updated cost estimate, the updated decommissioning cost estimate shall be determined by an independent qualified licensed professional engineer with adequate experience in the solar industry mutually agreed on by the Town and the facility owner.
3. The form of security to be posted for decommissioning shall be approved by Town Counsel and shall be automatically renewable with the Town of Wareham cited as a beneficiary of security proceeds in the event of default by the owner or successor(s) in title to the facility.
4. The Decommissioning Plan dated December 28, 2022 on file at the Town of Wareham Planning office is hereby incorporated by reference in its entirety in this Site Plan Approval.